

**DETAILED ACTION**

**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jessica Roark on 8/7/08.

The application has been amended as follows:

The claims withdrawn from examination are to be amended such as to have all the limitations of the allowable claims; the appropriate withdrawn claims are also to be amended to remove derivatives from those claims that would place those claims within the same scope as the allowed claims; further, withdrawn claims depending from generic method claims are also amended to properly depend from the method generic claims. The amendment follows below:

**In the claims:**

Claim 11. (Canceled)

In claim 30, line 2, after "furanoses" and delete " and derivatives thereof" as shown below

Claim 30. (Currently amended) A composition according to claim 1, wherein said at least one C<sub>5</sub> to C<sub>7</sub>saccharide unit is chosen from furanoses[ and derivatives thereof].

Claim 32. (canceled)

Claim 33. (cancelled).

For claim 49, after “fiber,” and before “and” in line 12, insert ---with the proviso that if the at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from polysaccharides, then the amino groups are unsubstituted,--- as shown below

49. (Currently amended) A method for caring for or treating at least one keratinous fiber comprising:

applying to said at least one keratinous fiber a composition comprising:

(a) at least one compound comprising at least two quaternary ammonium groups;

and

(b) at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group; and

heating said at least one keratinous fiber,

wherein said at least one compound comprising at least two quaternary ammonium groups and at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group are present in an amount effective to care for or treat said at least one keratinous fiber, with the proviso that if the at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from polysaccharides, then the amino groups are unsubstituted. and further wherein said composition is applied prior to or during said heating.

For claim 57, line 7, before “polysaccharides” delete “derivatives of” as shown below

57. (Currently amended) A method according to claim 56, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl monomer;

- cationic diallyl quaternary ammonium polymers comprising at least two quaternary ammonium groups;

- [derivatives of ]polysaccharide polymers comprising at least two quaternary ammonium groups; and

- silicone polymers comprising at least two quaternary ammonium groups.

For claim 58, line 18, after "cationic" replace "starch derivatives" with ---starches--- and in line 20, after "guar" replace "gum derivatives" with ---gums--- as shown below

58. (Currently amended) A method according to claim 57, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl monomer substituted with at least one group chosen from dialkylaminoalkyl acrylate, dialkylaminoalkyl methacrylate, monoalkylaminoalkyl acrylate, monoalkylaminoalkyl methacrylate, trialkyl methacryloxyalkyl ammonium salts, trialkyl acryloxyalkyl ammonium salts and diallyl quaternary ammonium salts;

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl quaternary ammonium monomer comprising at least one cyclic cationic, nitrogen-containing ring;

- copolymers comprising at least two quaternary ammonium groups derived from (i) at least one vinyl monomer comprising at least one quaternary ammonium group and

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(ii) at least one additional monomer chosen from acrylamide, methacrylamide, alkyl acrylamides, dialkyl acrylamides, alkyl methacrylamides, dialkyl methacrylamides, alkyl acrylate, alkyl methacrylate, vinyl caprolactone, vinyl pyrrolidone, vinyl esters, vinyl alcohol, maleic anhydride, propylene glycol, and ethylene glycol;

- cationic cellulose comprising at least two quaternary ammonium groups;

- cationic [starch derivatives]starches comprising at least two quaternary ammonium groups;

- cationic guar [gum derivatives]gums comprising at least two quaternary ammonium groups; and

- cellulose ethers comprising at least two quaternary ammonium groups.

62. (Canceled)

For claim 64, line 1, replace "40" with ---49--- as shown below

64. (Currently amended) A method according to claim [40]49, wherein said at least one compound comprising at least two quaternary ammonium groups further comprises at least one counterion.

For claim 77, delete second occurrence of "galactosamine" in line 3 as shown below

77. (Currently amended) A method according to claim 76, wherein hexosamines are chosen from glucosamine, galactosamine, allosamine, altrosamine, mannosamine, gulosamine, idosamine, [galactosamine, ]and talosamine.

For claims 80 and 81, in line 1, replace "composition" with ---method--- as shown below;  
also, for claim 81, after "furanoses" in line 2, delete " and derivatives thereof"

80. (Currently amended) A method[composition] according to claim 49, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is chosen from oligosaccharides derived from said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group.

81. (Currently amended) A method[composition] according to claim 49, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from furanoses[ and derivatives thereof].

82. (Canceled)

83. (Canceled)

84. (Canceled)

For claim 90, line 4, after "group" delete "and derivatives thereof" as shown below

90. (Currently amended) A method according to claim 49, wherein said composition further comprises at least one additional sugar, said at least one additional sugar being different from said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group [and derivatives thereof].

For claim 10, after “fiber,” and before “and” in line 11, insert ---with the proviso that if the at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from polysaccharides, then the amino groups are unsubstituted,--- as shown below

100. (Currently amended) A method for durably conditioning at least one keratinous fiber comprising: applying to said at least one keratinous fiber a composition comprising:

- (a) at least one compound comprising at least two quaternary ammonium groups; and
- (b) at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group; and

heating said at least one keratinous fiber,

wherein said at least one compound comprising at least two quaternary ammonium groups and at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group are present in an amount effective to durably condition said at least one keratinous fiber, with the proviso that if the at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from polysaccharides, then the amino groups are unsubstituted; and

further wherein said composition is applied prior to or during said heating.

For claim 108, in line 7, before “polysaccharide” delete “derivatives of” as shown below

108. (Currently amended) A method according to claim 107, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl monomer;

- cationic diallyl quaternary ammonium polymers comprising at least two quaternary ammonium groups;

- [ derivatives of] polysaccharide polymers comprising at least two quaternary ammonium groups; and

- silicone polymers comprising at least two quaternary ammonium groups.

For claim 109, line 18, after "cationic" replace "starch derivatives" with ---starches--- and in line 20, after "guar" replace "gum derivatives" with ---gums--- as shown below 109. (Currently amended) A method according to claim 108, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl monomer substituted with at least one group chosen from , dialkylaminoalkyl acrylate, dlalkylaminoalkyl methacrylate, monoalkylaminoalkyl acrylate, monoalkylaminoalkyl methacrylate, trialkyl methacryloxyalkyl ammonium salts, trialkyl acryloxyalkyl ammonium salts and diallyl quaternary ammonium salts;

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl quaternary ammonium monomer comprising at least one cyclic cationic nitrogen-containing ring;

- copolymers comprising at least two quaternary ammonium groups derived from (i) at least one vinyl monomer comprising at least one quaternary ammonium group and (ii) at least

one additional monomer chosen from acrylamide,, methacrylamide, alkyl acrylamides, dialkyl acrylamides, alkyl methacrylamides, dialkyl methacrylamides, alkyl acrylate, alkyl methacrylate, vinyl caprolactone, vinyl pyrrolidone; vinyl esters, vinyl alcohol, maleic anhydride, propylene glycol, and ethylene glycol;

- cationic cellulose comprising at least two quaternary ammonium groups;
- cationic [starch derivatives]starches comprising at least two quaternary ammonium groups;
- cationic guar [gum derivatives]gums comprising at least two quaternary ammonium groups; and
- cellulose ethers comprising at least two quaternary ammonium groups.

113. (Canceled)

For 128, delete second occurrence of "galactosamine " in line 3 as shown below

128. (Currently amended) A method according to claim 127, wherein said hexosamines are chosen from glucosamine, galactosamine, allosamine, altrosamine, mannosamine, gulosamine, idosamine, [galactosamine, ]and talosamine.

For claim 132, line 2, after "furanoses" delete " and derivatives thereof" as shown below

132. (Currently amended) A method according to claim 100, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from furanoses[ and derivatives thereof].



133. (Canceled)

134. (Canceled)

135. (Canceled)

For claim 142, line 4, after "group" delete " and derivatives thereof" as shown below

141. (Currently amended) A method according to claim 100, wherein said composition further comprises at least one additional sugar, said at least one additional sugar being different from said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group[ and derivatives thereof].

2. Claims 1-9, 13-20, 24-26, 29, 35 and 37-48 are allowed. Claims 10, 12, 21-23, 27, 28, 30, 34, 36, 49-61, 63-81, 85-112, 114-132 and 136-150, previously withdrawn from consideration as a result of a restriction requirement, require all the limitations of an allowable claim. Pursuant to the procedures set forth in MPEP § 821.04(a), **the restriction requirement between inventions I and II, as set forth in the Office action mailed on 2/11/2002 and 08/27/02, is hereby withdrawn** and claims 10, 12, 21-23, 27, 28, 30, 34, 36, 49-61, 63-81, 85-112, 114-132 and 136-150 after the necessary amendment above are hereby rejoined and fully examined for patentability under 37 CFR 1.104. In view of the withdrawal of the restriction requirement, applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Reasons for Allowance

3. The application is allowable for the reasons set forth on pages 7, 8, 12 and 14 of the decision of the Board, which is hereby incorporated by reference. As noted therein, and as argued on pages 14-20 of Appellant's brief, the claimed invention requires that when the compound comprising C<sub>5</sub> to C<sub>7</sub> saccharide is a polysaccharide, then the amino groups are unsubstituted, whereas in the closest prior art, the amino group in the polysaccharide is substituted.
4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BLESSING M. FUBARA whose telephone number is (571)272-0594. The examiner can normally be reached on 7 a.m. to 5:30 p.m. (Monday to Thursday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Hartley can be reached on (571) 272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Blessing M. Fubara/  
Examiner, Art Unit 1618

Below is a listing of the claims, which replaces all prior versions and listings:

1. (Previously presented) A composition for durable conditioning of at least one keratinous fiber comprising:

(a) at least one compound comprising at least two quaternary ammonium groups;  
and

(b) at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group, wherein said at least one compound comprising at least two quaternary ammonium groups and at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group are present in an amount effective to durably condition said at least one keratinous fiber,

with the proviso that if the at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from polysaccharides, then the amino groups are unsubstituted.

2. (original) A composition according to claim 1, wherein said at least two quaternary ammonium groups, which may be identical or different, are each chosen from ammonium groups which are quaternized and amine groups which are capable of being quaternized.

3. (original) A composition according to claim 2, wherein said amine groups which are capable of being quaternized are chosen from primary amine groups, secondary amine groups, and tertiary amine groups.

4. (original) A composition according to claim 1, wherein said at least two quaternary ammonium groups, which may be identical or different, are each chosen from substituent ammonium groups which are quaternized, substituent amino groups capable of being

quaternized, ammonium groups which are quaternized which form part of the skeleton of said at least one compound and amino groups capable of being quaternized which form part of the skeleton of said at least one compound.

5. (original) A composition according to claim 1, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from (i) at least one monomer unit comprising at least two quaternary ammonium groups as defined below and optionally (ii) at least one additional monomer unit different from said at least one monomer (i); and

- polymers comprising at least two quaternary ammonium groups derived from (i) at least one monomer comprising at least one quaternary ammonium group as defined herein and optionally (ii) at least one additional monomer unit.

6 (Previous presented) A composition according to claim 5, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl monomer;

- cationic diallyl quaternary ammonium polymers comprising at least two quaternary ammonium groups:

- polysaccharide polymers comprising at least two quaternary ammonium groups; and
- silicone polymers comprising at least two quaternary ammonium groups.

7. (Previously presented) A composition according to claim 6, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl monomer substituted with at least one group chosen from dialkylaminoalkyl acrylate, dialkylaminoalkyl methacrylate, monoalkylaminoalkyl acrylate, monoalkylaminoalkyl methacrylate, trialkyl methacryloxyalkyl ammonium salts, trialkyl acryloxyalkyl ammonium salts and diallyl quaternary ammonium salts;

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl quaternary ammonium monomer comprising at least one cyclic cationic nitrogen-containing ring;

- copolymers comprising at least two quaternary ammonium groups derived from (i) at least one vinyl monomer comprising at least one quaternary ammonium group and (ii) at least one additional monomer chosen from acrylamide, methacrylamide, alkyl acrylamides, dialkyl acrylamides, alkyl methacrylamides, dialkyl methacrylamides, alkyl acrylate, alkyl methacrylate, vinyl caprolactone, vinyl pyrrolidone, vinyl esters, vinyl alcohol, maleic anhydride, propylene glycol, and ethylene glycol;

- cationic cellulose comprising at least two quaternary ammonium groups;
- cationic starches comprising at least two quaternary ammonium groups;
- cationic guar gums comprising at least two quaternary ammonium groups; and
- cellulose ethers comprising at least two quaternary ammonium groups.

8. (original) A composition according to claim 7, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from polyquaternium-16; polyquaternium-11; quaternized poly(vinylamine); quaternized poly- 4-vinyl pyridine; quaternized poly(ethyleneimine); polyquaternium-6; polyquaternium-7;

polyquaternium-22; polyquaternium-39; polyquaternium-10; polyquaternium-24; quaternized starch; and amodimethicone.

9. (original) A composition according to claim 7, wherein said at least one compound comprising at least two quaternary ammonium groups is polyquaternium-10.

10. (withdrawn--- rejoined) A composition according to claim 7, wherein said at least one compound comprising at least two quaternary ammonium groups is polyquaternium-22.

11. (Canceled)

12. (withdrawn--- rejoined) A composition according to claim 7, wherein said at least one compound comprising at least two quaternary ammonium groups is quaternized starch.

13. (original) A composition according to claim 1, wherein said at least one compound comprising at least two quaternary ammonium groups further comprises at least one counterion.

14. (original) A composition according to claim 1, wherein said at least one compound comprising at least two quaternary ammonium groups is present in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

15. (original) A composition according to claim 14, wherein said at least one compound comprising at least two quaternary ammonium groups is present in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

16. (original) A composition according to claim 1, wherein said at least one amino group is chosen from unsubstituted amino groups and substituted amino groups.

17. (original) A composition according to claim 1, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is further substituted with at least one group different from said at least one amino group.

18. (original) A composition according to claim 1, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is substituted with said at least one amino group at C1 of said saccharide unit.

19. (original) A composition according to claim 1, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is substituted with said at least one amino group at C2 of said saccharide unit.

20. (original) A composition according to claim 1, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is chosen from C<sub>5</sub> monosaccharides substituted with at least one amino group, C<sub>6</sub> monosaccharides substituted with at least one amino group, C<sub>7</sub> monosaccharides substituted with at least one amino group, polymers comprising at least one C<sub>5</sub> monosaccharide substituted with at least one amino group, polymers, comprising at least one C<sub>6</sub> monosaccharide substituted with at least one amino group, polymers comprising at least one C<sub>7</sub> monosaccharide substituted with at least one amino group, and glycoproteins comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group.

21. (withdrawn--- rejoined) A composition according to claim 20, wherein said C<sub>5</sub> monosaccharides substituted with at least one amino group are chosen from pentosamines.

22. (withdrawn--- rejoined) A composition according to claim 21, wherein said pentosamines are chosen from aldopentosamines and ketopentosamines.

23. (withdrawn--- rejoined) A composition according to claim 22, wherein said pentosamines are chosen from xylosamine, arabinosamine, lyxosamine, ribosamine, ribulosamine and xylulosamine.

24. (original) A composition according to claim 20, wherein said C<sub>6</sub> monosaccharides substituted with at least one amino group are chosen from hexosamines.



25. (original) A composition according to claim 24, wherein said hexosamines are chosen from aldohexosamines and ketohexosamines.

26. (original) A composition according to claim 25, wherein hexosamines are chosen from glucosamine, galactosamine, allosamine, altrosamine, mannosamine, gulosamine, idosamine, galactosamine, and talosamine.

27. (withdrawn --- rejoined) A composition according to claim 20, wherein said C<sub>7</sub> monosaccharides substituted with at least one amino group are chosen from heptosamines.

28. (withdrawn --- rejoined) A composition according to claim 27, wherein said heptosamines are chosen from aldoheptosamines and ketoheptosamines.

29. (original) A composition according to claim 1, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is chosen from oligosaccharides derived from said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group.

30. (Currently amended) A composition according to claim 1, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from furanoses[ and derivatives thereof].

Claim 31. (canceled).

Claim 32. (canceled)

Claim 33. (cancelled).

34. (withdrawn --- rejoined) A composition according to claim 1, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is chosen from lyxosylamine.

35. (original) A composition according to claim 1, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is chosen from glucosamine.

36. (withdrawn --- rejoined) A composition according to claim 1, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is chosen from galactosamine.

37. (original) A composition according to claim 1, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

38. (original) A composition according to claim 37, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is present in said composition in an amount ranging from 0.1%.to 5% by weight relative to the total weight of the composition.

39. (original) A composition according to claim 1, wherein said composition further comprises at least one additional sugar, said at least one additional sugar being different from said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group.

40. (original) A composition according to claim 39, wherein said at least one additional sugar is chosen from monosaccharides, oligosaccharides and polysaccharides.

41. (original) A composition according to claim 40, wherein said monosaccharides are chosen from hexoses.

42. (original) A composition according to claim 41, wherein said hexoses are chosen from allose, altrose, glucose, mannose, gulose, idose, galactose, talose, sorbose, psicose, fructose, and tagatose.

43. (original) A composition according to claim 39, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

44. (original) A composition according to claim 43, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

45. (original) A composition according to claim 1, wherein said composition is in the form of a liquid, oil, paste, stick, dispersion, emulsion, lotion, gel, or cream.

46. (original) A composition according to claim 1, wherein said at least one keratinous fiber is hair.

47. (original) A composition according to claim 1, further comprising at least one suitable additive chosen from anionic surfactants, cationic surfactants, nonionic surfactants, amphoteric surfactants, fragrances, penetrating agents, antioxidants, sequestering agents, opacifying agents, solubilizing agents, emollients,, colorants, screening agents, preserving agents, proteins, Vitamins, silicones, polymers, plant oils, mineral oils, and synthetic oils.

48. (original) A composition according to claim 1, wherein said composition is heat-activated.

49. (Currently amended) A method for caring for or treating at least one keratinous fiber comprising:

applying to said at least one keratinous fiber a composition comprising:

(a) at least one compound comprising at least two quaternary ammonium groups;

and

(b) at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit

substituted with at least one amino group; and

heating said at least one keratinous fiber,

wherein said at least one compound comprising at least two quaternary ammonium groups and at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group are present in an amount effective to care for or treat said at least one keratinous fiber, with the proviso that if the at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from polysaccharides, then the amino groups are unsubstituted, and further wherein said composition is applied prior to or during said heating.

50. (withdrawn --- rejoined) A method according to claim 49, further comprising wetting said at least one keratinous fiber with water prior to said application.

51. (withdrawn --- rejoined) A method according to claim 49, further comprising shampooing said at least one keratinous fiber subsequent to said heating.

52. (withdrawn --- rejoined) A method according to claim 51, further comprising rinsing said at least one keratinous fiber subsequent to said shampooing.

53. (withdrawn --- rejoined) A method according to claim 49, wherein said at least two quaternary ammonium groups, which may be identical or different, are each chosen from ammonium groups which are quaternized and amine groups which are capable of being quaternized.

54. (withdrawn --- rejoined) A method according to claim 53, wherein said amine groups which are capable of being quaternized are chosen from primary amine groups, secondary amine groups, and tertiary amine groups.

55. (withdrawn --- rejoined) A method according to claim 49, wherein said at least two quaternary ammonium groups, which may be identical or different, are each chosen from substituent ammonium groups which are quaternized, substituent amino groups capable of being quaternized, ammonium groups which are quaternized which form part of the skeleton of said at least one compound and amino groups capable of being quaternized which form part of the skeleton of said at least one compound.

56. (withdrawn --- rejoined) A method according to claim 49, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from (i) at least one monomer unit comprising at least two quaternary ammonium groups as defined below and optionally (ii) at least one additional monomer unit different from, said at least one monomer (i); and

- polymers comprising at least two quaternary ammonium groups derived from (i) at least one monomer comprising at least one quaternary ammonium group as defined herein and optionally (ii) at least one additional monomer unit.

57. (Currently amended) A method according to claim 56, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl monomer;

- cationic diallyl quaternary ammonium polymers comprising at least two quaternary ammonium groups;

- [derivatives of] polysaccharide polymers comprising at least two quaternary ammonium groups; and

- silicone polymers comprising at least two quaternary ammonium groups.

58. (Currently amended) A method according to claim 57, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl monomer substituted with at least one group chosen from dialkylaminoalkyl acrylate, dialkylaminoalkyl methacrylate, monoalkylaminoalkyl acrylate, monoalkylaminoalkyl methacrylate, trialkyl methacryloxyalkyl ammonium salts, trialkyl acryloxyalkyl ammonium salts and diallyl quaternary ammonium salts;

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl quaternary ammonium monomer comprising at least one cyclic cationic nitrogen-containing ring;

- copolymers comprising at least two quaternary ammonium groups derived from
  - (i) at least one vinyl monomer comprising at least one quaternary ammonium group and
  - (ii) at least one additional monomer chosen from acrylamide, methacrylamide, alkyl acrylamides, dialkyl acrylamides, alkyl methacrylamides, dialkyl methacrylamides, alkyl acrylate, alkyl methacrylate, vinyl caprolactone, vinyl pyrrolidone, vinyl esters, vinyl alcohol, maleic anhydride, propylene glycol, and ethylene glycol;

- cationic cellulose comprising at least two quaternary ammonium groups;

- cationic [starch derivatives]starches comprising at least two quaternary ammonium groups;

- cationic guar [gum derivatives]gums comprising at least two quaternary ammonium groups; and

- cellulose ethers comprising at least two quaternary ammonium groups.

59. (withdrawn --- rejoined) A method according to claim 58, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from polyquaternium-16; polyquaternium-11; quaternized poly(vinylamine); quaternized poly-4-vinyl pyridine; quaternized poly(ethylencimine); polyquaternium-6; polyquaternium-7; polyquaternium-22; polyquaternium-39; polyquaternium-10; polyquaternium-24; quaternized starch; and amodimethicone.

60. (withdrawn --- rejoined) A method according to claim 59, wherein said at least one compound comprising at least two quaternary ammonium groups is polyquaternium-10.

61. (withdrawn --- rejoined) A method according to claim 59, wherein said at least one compound comprising at least two quaternary ammonium groups is polyquaternium-22.

62. (Canceled)

63. (withdrawn --- rejoined) A method according to claim 59, wherein said at least one compound comprising at least two quaternary ammonium groups is quaternized starch.

64(Currently amended) A method according to claim [40]49, wherein said at least one compound comprising at least two quaternary ammonium groups further comprises at least one counterion.

65. (withdrawn --- rejoined) A method according to claim 49, wherein said at least one compound comprising at least two quaternary ammonium groups is present in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

66. (withdrawn -- rejoined) A method according to claim 65, wherein said at least one compound comprising at least two quaternary ammonium groups is present in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

67. (withdrawn --- rejoined) A method according to claim 49, wherein said at least one amino group is chosen from unsubstituted amino groups and substituted amino groups.

68. (withdrawn) A method according to claim 49, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is further substituted with at least one group different from said at least one amino group.

69. (withdrawn --- rejoined) A method according to claim 49, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is substituted with said at least one amino group at C1 of said saccharide unit.

70. (withdrawn --- rejoined) A method according to claim 49, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is substituted with said at least one amino group at C2 of said saccharide unit.

71. (withdrawn --- rejoined) A method according to claim 49, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is chosen from C<sub>5</sub> monosaccharides substituted with at least one amino group, C<sub>6</sub> monosaccharides substituted with at least one amino group, C<sub>7</sub> monosaccharides substituted with at least one amino group, polymers comprising at least one C<sub>5</sub> monosaccharide substituted with



at least one amino group, polymers comprising at least one C<sub>6</sub> monosaccharide substituted with at least one amino group, polymers comprising at least one C<sub>7</sub> monosaccharide substituted with at least one amino group, and glycoproteins comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group.

72. (Withdrawn --- rejoined) A method according to claim 71, wherein said C<sub>5</sub> monosaccharides substituted with at least one amino group are chosen from pentosamines.

73. (withdrawn --- rejoined) A method according to claim 72, wherein said pentosamines are chosen from aldopentosamines and ketopentosamines.

74. (withdrawn --- rejoined) A method according to claim 73, wherein said pentosamines are chosen from xylosamine, arabinosamine, lyxosamine, ribosamine, ribulosamine and xylulosamine.

75. (withdrawn --- rejoined) A method according to claim 71, wherein said C<sub>6</sub> monosaccharides substituted with at least one amino group are chosen from hexosamines.

76. (withdrawn --- rejoined) A method according to claim 75, wherein said hexosamines are chosen from aldohexosamines and ketohexosamines.

77. (Currently amended) A method according to claim 76, wherein hexosamines are chosen from glucosamine, galactosamine, allosamine, altrosamine, mannosamine, gulosamine, idosamine, [galactosamine, ]and talosamine.

78. (withdrawn --- rejoined) A method according to claim 71, wherein said C<sub>7</sub> monosaccharides substituted with at least one amino group are chosen from heptosamines.

79. (withdrawn --- rejoined) A method according to claim 78, wherein said heptosamines are chosen from. aldoheptosamines and ketoheptosamines.

80. (Currently amended) A method[composition] according to claim 49, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is chosen from oligosaccharides derived from said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group.

81. (Currently amended) A method[composition] according to claim 49, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from furanoses[ and derivatives thereof].

82. (Canceled)

83. (Canceled)

84. (Canceled)

85. (withdrawn --- rejoined) A method according to claim 49, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is chosen from lyxosylamine.

86. (withdrawn --- rejoined) A method according to claim 49, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is chosen from glucosamine.

87. (withdrawn --- rejoined) A method according to claim 49, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is chosen from galactosamine.

88. (withdrawn --- rejoined) A method according to claim 49, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

89. (withdrawn --- rejoined) A method according to claim 88, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

90. (Currently amended) A method according to claim 49, wherein said composition further comprises at least one additional sugar, said at least one additional sugar being different from said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group.[ and derivatives thereof.]

91. (withdrawn --- rejoined) A method according to claim 90, wherein said at least one additional sugar is chosen from monosaccharides, oligosaccharides and polysaccharides.

92. (withdrawn --- rejoined) A method according to claim 91, wherein said monosaccharides are chosen from hexoses.

93. (withdrawn --- rejoined) A method according to claim 92, wherein said hexoses are chosen from allose, altrose, glucose, mannose, gulose, idose, galactose, talose, sorbose, psicose, fructose, and tagatose.

94. (withdrawn --- rejoined) A method according to claim 90, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

95. (withdrawn --- rejoined) A method according to claim 94, wherein said at least one additional sugar is present in said composition in an amount ranging from 0,1% to 5% by weight relative to the total weight of the composition.

96. (withdrawn --- rejoined) A method according to claim 49, wherein said composition is in the form of a liquid, oil, paste, stick, dispersion, emulsion, lotion, gel, or cream.

97. (withdrawn --- rejoined) A method according to claim 49, wherein said keratinous fiber is hair.

98. (withdrawn --- rejoined) A method according to claim 49, wherein said composition further comprises at least one suitable additive chosen from anionic surfactants, cationic surfactants, nonionic surfactants, amphoteric surfactants, fragrances, penetrating agents, antioxidants, sequestering agents, opacifying agents, solubilizing agents, emollients, colorants, screening agents, preserving agents, proteins, vitamins, silicones, polymers, plant oils, mineral oils, and synthetic oils.

99. (withdrawn --- rejoined) The method according to claim 49, wherein said composition is applied prior to and during said heating.

100. (Currently amended) A method for durably conditioning at least one keratinous fiber comprising: applying to said at least one keratinous fiber a composition comprising:

(a) at least one compound comprising at least two quaternary ammonium groups; and

(b) at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group; and

heating said at least one keratinous fiber,

wherein said at least one compound comprising at least two quaternary ammonium groups and at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group are present in an amount effective to durably condition said at least one keratinous fiber, with the proviso that if the at least one compound comprising at least one

C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from polysaccharides, then the amino groups are unsubstituted; and

further wherein said composition is applied prior to or during said heating.

101. (withdrawn --- rejoined) A method according to claim 100, further comprising wetting said at least one keratinous fiber with water prior to said applying.

102. (withdrawn --- rejoined) A method according to claim 100, further comprising shampooing said at least one keratinous fiber subsequent to said heating.

103. (withdrawn --- rejoined) A method according to claim 102, further comprising rinsing said at least one keratinous fiber subsequent to said shampooing.

104. (withdrawn --- rejoined) A method according to claim 100, wherein said at least two quaternary ammonium groups, which may be identical or different, are each chosen from ammonium groups which are quaternized and amine groups which are capable of being quaternized.

105. (withdrawn --- rejoined) A method according to claim 104, wherein said amine groups which are capable of being quaternized are chosen from primary amine groups, secondary amine groups, and tertiary amine groups.

106. (withdrawn --- rejoined) A method according to claim 100, wherein said at least two quaternary ammonium groups, which may be identical or different, are each chosen from substituent ammonium groups which are quaternized, substituent amino groups capable of being quaternized, ammonium groups which are quaternized which form part of the skeleton of said at least one compound and amino groups capable of being quaternized which form part of the skeleton of said at least one compound.

107. (withdrawn --- rejoined) A method according to claim 100, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from (i) at least one monomer unit comprising at least two quaternary ammonium groups as defined below and optionally (ii) at least one additional monomer unit different from said at least one monomer (i); and

- polymers comprising at least two quaternary ammonium groups derived from (i) at least one monomer comprising at least one quaternary ammonium group as defined herein and optionally (ii) at least one additional monomer unit.

108. (Currently amended) A method according to claim 107, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl monomer;

- cationic diallyl quaternary ammonium polymers comprising at least two quaternary ammonium groups;

- [ derivatives of] polysaccharide polymers comprising at least two quaternary ammonium groups; and

- silicone polymers comprising at least two quaternary ammonium groups.

109. (Currently amended) A method according to claim 108, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl monomer substituted with at least one group chosen from , dialkylaminoalkyl acrylate,

dlalkylaminoalkyl methacrylate, monoalkylaminoalkyl acrylate, monoalkylaminoalkyl methacrylate, trialkyl methacryloxyalkyl ammonium salts, trialkyl acryloxyalkyl ammonium salts and diallyl quaternary ammonium salts;

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl quaternary ammonium monomer comprising at least one cyclic cationic nitrogen-containing ring;

- copolymers comprising at least two quaternary ammonium groups derived from (i) at least one vinyl monomer comprising at least one quaternary ammonium group and (ii) at least one additional monomer chosen from acrylamide, methacrylamide, alkyl acrylamides, dlalkyl acrylamides, alkyl methacrylamides, dialkyl methacrylamides, alkyl acrylate, alkyl methacrylate, vinyl caprolactone, vinyl pyrrolidone; vinyl esters, vinyl alcohol, maleic anhydride, propylene glycol, and ethylene glycol;

- cationic cellulose comprising at least two quaternary ammonium groups;

- cationic [starch derivatives]starches comprising at least two quaternary ammonium groups;

- cationic guar [gum derivatives]gums comprising at least two quaternary ammonium groups; and

- cellulose ethers comprising at least two quaternary ammonium groups.

110. (withdrawn --- rejoined) A method according to claim 109, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from polyquaternium-16; polyquaternium-11; quaternized poly(vinylamine); quaternized poly-4-vinyl pyridine; quaternized poly(ethyleneimine); polyquaternium-6; polyquaternium-7;

polyquaternium-22; polyquaternium -39; polyquaternium-10; polyquaternium-24; quaternized starch; and amodimethicone.

111. (withdrawn --- rejoined) A method according to claim 110 wherein said at least one compound comprising at least two quaternary ammonium groups is polyquaternium-10.

112. (withdrawn --- rejoined) A method according to claim 110, wherein said at least one compound comprising at least two quaternary ammonium groups is polyquaternium-22.

113. (Canceled)

114. (withdrawn --- rejoined) A method according to claim 110, wherein said at least one compound comprising at least two quaternary ammonium groups is quaternized starch.

115. (withdrawn --- rejoined) A method according to claim 100, wherein said at least one compound comprising at least two quaternary ammonium groups further comprises at least one counterion.

116. (withdrawn --- rejoined) A method according to claim 100, wherein said at least one compound comprising at least two quaternary ammonium groups is present in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

117. (withdrawn --- rejoined) A method according to claim 116, wherein said at least one compound comprising at least two quaternary ammonium groups is present in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

118. (withdrawn) A method according to claim 100, wherein said at least one amino group is chosen from unsubstituted amino groups and substituted amino groups.

119. (withdrawn --- rejoined) A method according to claim 100, wherein said at least one



to C<sub>7</sub> saccharide unit is further substituted with at least one group different from said at least one amino group.

120. (withdrawn --- rejoined) A method according to claim 100, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is substituted with said at least one amino group at C1 of said saccharide unit.

121. (withdrawn --- rejoined) A method according to claim 100, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is substituted with said at least one amino group at C2 of said saccharide unit.

122. (withdrawn --- rejoined) A method according to claim 100, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is chosen from C<sub>5</sub> monosaccharides substituted with at least one amino group, C<sub>6</sub> monosaccharides substituted with at least one amino group, C<sub>7</sub> monosaccharides substituted with at least one amino group, polymers comprising at least one C<sub>5</sub> monosaccharide substituted with at least one amino group, polymers comprising at least one C<sub>6</sub> monosaccharide substituted with at least one amino group, polymers comprising at least one C<sub>7</sub> monosaccharide substituted with at least one amino group, and glycoproteins comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group.

123. (withdrawn --- rejoined) A method according to claim 122, wherein said C<sub>5</sub> monosaccharides substituted with at least one amino group are chosen from pentosamines.

124. (withdrawn --- rejoined) A method according to claim 123, wherein said pentosamines are chosen from aldopentosamines and ketopentosamines.

125. (withdrawn --- rejoined) A method according to claim 124, wherein said pentosamines are chosen from xylosamine, arabinosamine, lyxosamine, ribosamine, ribulosamine and xylulosamine.

126. (withdrawn --- rejoined) A method according to claim 122, wherein said C<sub>6</sub> monosaccharides substituted with at least one amino group are chosen from hexosamines.

127. (withdrawn --- rejoined) A method according to claim 126, wherein said hexosamines are chosen from aldohexosamines and ketohexosamines.

128. (Currently amended) A method according to claim 127, wherein said hexosamines are chosen from glucosamine, galactosamine, allosamine, altrosamine, mannosamine, gulosamine, idosamine, [galactosamine, ]and talosamine.

129. (withdrawn --- rejoined) A method according to claim 122, wherein said C<sub>7</sub> monosaccharides substituted with at least one amino group are chosen from heptosamines.

130. (withdrawn --- rejoined) A method according to claim 129, wherein said heptosamines are chosen from aldoheptosamines and ketoheptosamines.

131. (withdrawn --- rejoined) A method according to claim 100, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is chosen from oligosaccharides derived from said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group.

132. (Currently amended) A method according to claim 100, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from furanoses[ and derivatives thereof].

133. (Canceled)

134. (Canceled)

135. (Canceled)

136. (withdrawn --- rejoined) A method according to claim 100, wherein said-at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is chosen from lyxosylamine.

137. (withdrawn --- rejoined) A method according to claim 100, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is chosen from glucosamine.

138. (withdrawn --- rejoined) A method according to claim 100, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is chosen from galactosamine.

139. (withdrawn --- rejoined) A method according to claim 100, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

140. (withdrawn --- rejoined) A method according to claim 139, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

141. (Currently amended) A method according to claim 100, wherein said composition further comprises at least one additional sugar, said at least one additional sugar being different from said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group[ and derivatives thereof].

142. (withdrawn --- rejoined) A method according to claim 141, wherein said at least one additional sugar is chosen from monosaccharides, oligosaccharides and polysaccharides.

143. (withdrawn --- rejoined) A method according to claim 142, wherein said monosaccharides are chosen from hexoses.

144. (withdrawn --- rejoined) A method according to claim 143, wherein said hexoses are chosen from allose, altrose, glucose, mannose, gulose, idose, galactose, talose, sorbose, psicose, fructose, and tagatose.

145. (withdrawn --- rejoined) A method according to claim 141, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

146. (withdrawn --- rejoined) A method according to claim 145, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

147. (withdrawn --- rejoined) A method according to claim 100, wherein said composition is in the form of a liquid, oil, paste, suck, dispersion, emulsion, lotion, gel, or cream.

148. (withdrawn --- rejoined) A method according to claim 100, wherein said keratinous fiber is hair.

149. (withdrawn --- rejoined) A method according to claim 100, wherein said composition further comprises at least one suitable additive chosen from anionic surfactants, cationic surfactants, nonionic surfactants, amphoteric surfactants, fragrances, penetrating agents, antioxidants, sequestering agents, opacifying agents, solubilizing agents, emollients,

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colorants, screening agents, preserving agents, proteins, vitamins, silicones, polymers, plant oils, mineral oils, and synthetic oils.

150. (withdrawn --- rejoined) A method according to claim 100, wherein said composition is applied prior to and during said heating.

Claims 151-152. (canceled).

/Michael G. Hartley/

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